

Appl. No. : 09/828,550
Filed : April 6, 2001

AMENDMENTS TO THE CLAIMS

Please cancel Claims 11 and 12 without prejudice.

Please amend Claims 1, 9, 10 and 13.

1. **(Currently amended)** A semiconductor processing apparatus comprising a reaction chamber and one or more vitreous components that have a support surface for supporting other components in the reaction chamber, said support surface being having an outer surface that is covered at least in part by a devitrification barrier coating that is bonded to said support surface and directly contacts said supported other components in the reaction chamber.

2. **(Original)** The apparatus of Claim 1, wherein said one or more vitreous components are formed from quartz.

B¹ 3. **(Original)** The apparatus of Claim 1, wherein said devitrification barrier comprises silicon nitride.

4. **(Original)** The apparatus of Claim 1, wherein said devitrification barrier coating is formed from silicon nitride that has been deposited on said one or more vitreous components using CVD deposition.

5. **(Original)** The apparatus of Claim 1, where said devitrification barrier coating has a thickness between about 1 and 10,000 angstroms.

6. **(Currently amended)** The apparatus of Claim 5, where said devitrification barrier coating has a thickness between about 50 and 5000 angstroms ~~thick~~.

7. **(Currently amended)** The apparatus of Claim 6, where said devitrification barrier coating has a thickness between about 500 and 3,000 angstroms ~~thick~~.

8. **(Currently amended)** The apparatus of Claim 7, where said devitrification barrier coating has a thickness of about 800 angstroms ~~thick~~.

9. **(Currently amended)** The apparatus of Claim 1, where said devitrification barrier coating is ~~formed~~ selected from the group consisting of silicon nitride, diamond, titanium nitride, titanium carbon nitride, and combinations thereof.

10. **(Currently amended)** The apparatus of Claim 1, wherein said devitrification barrier coating covers an entire portion of said ~~outer~~ support surface of said one or more vitreous components.

11. **(Canceled)**

12. **(Canceled)**

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13. (Currently amended) The apparatus of Claim 1, wherein said apparatus further comprises ~~an upwardly extending projection positioned on a support device~~ comprising at least one laterally extending member, said radially extending member including an upwardly extending projection that defines said support surface, said projection and support device configured to support a substrate within said apparatus, said support surface of said projection being covered at least in part by said devitrification barrier coating.

14. (Original) The apparatus of Claim 1, wherein said reaction chamber is a chemical vapor deposition reaction chamber.

15.-45 (Withdrawn)

46 (Previously added) The apparatus as in Claim 1, wherein said devitrification barrier coating is formed from silicon nitride that has been deposited on said one or more vitreous components using sputtering.

47. (Amended) The apparatus of Claim 1, wherein said devitrification barrier coating is formed by CVD deposition.

48. (Previously added) The apparatus of Claim 1, wherein said devitrification barrier coating is formed by sputtering.

49-54. (Withdrawn)

55. (Added) A semiconductor processing apparatus comprising a reaction chamber and a thermocouple, the thermocouple comprising a quartz sheath having an outer surface that is covered at least in part by a devitrification barrier coating having a thickness between about 1 and 10,000 angstroms.

56. (New) The apparatus of Claim 55, wherein said devitrification barrier comprises silicon nitride.

57. (New) The apparatus of Claim 55, wherein said devitrification barrier coating is formed from silicon nitride that has been deposited on said thermocouple using CVD deposition.

58. (New) The apparatus of Claim 58, where said devitrification barrier coating has a thickness between about 50 and 5,000 angstroms.

59. (New) The apparatus of Claim 59, where said devitrification barrier coating has a thickness between about 500 and 3,000 angstroms.

60. (New) The apparatus of Claim 60, where said devitrification barrier coating has a thickness of about 800 angstroms.

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61. (New) The apparatus of Claim 55, where said devitrification barrier coating is selected from the group consisting of silicon nitride, diamond, titanium nitride, titanium carbon nitride, and combinations thereof.

62. (New) The apparatus of Claim 55, wherein said devitrification barrier coating only covers a portion of said quartz sheath that is most susceptible to devitrification.

63. (New) The apparatus as in Claim 55, wherein said devitrification barrier coating is formed from silicon nitride that has been deposited on said thermocouple using sputtering.

64. (New) The apparatus of Claim 55, wherein said devitrification barrier coating is formed by CVD.

65. (New) The apparatus of Claim 55, wherein said devitrification barrier coating is formed by sputtering.